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Quaternary Fault and Fold Database of the United States

As of January 12, 2017, the USGS maintains a limited number of metadata fields that characterize the Quaternary faults and folds of the United States. For the most up-to-date information, please refer to the interactive fault map.

Mount Grafton fault (Class A) No. 1415

Last Review Date: 1998-06-29

citation for this record: **Sawyer, T.L., compiler, 1998, Fault number 1415, Mount Grafton fault, in Quaternary fault and fold database of the United States: U.S. Geological Survey website, https://earthquakes.usgs.gov/hazards/qfaults, accessed 12/14/2020 02:04 PM.**

Synopsis	This north-striking, down-to-the-east normal fault bounds the east side of the Schell Creek Range, along the west edge of Lake Valley, and also contains faults that cross into the range; Quaternary movement is suspected of these faults even though they only displace bedrock. Reconnaissance photogeologic mapping of the faults is the source of data. Trench investigations and studies of scarp morphology have not been completed.
Name comments	Refers to the Mount Grafton fault mapped and named by Schell (1981 #2844) and subsequently mapped by Dohrenwend and others (1991 #287). One of the earliest references to this fault is Tschanz (1970 #1682). The fault extends along front of the Schell Creek Range from south of Patterson Pass northward to the east side of Robbers Roost Basin. This fault may be related to the unnamed fault [1406] to south along the range front. **Fault ID:** Refers to fault 61 on Plate A6 in Schell (1981 #2844).

County(s) and State(s)	LINCOLN COUNTY, NEVADA WHITE PINE COUNTY, NEVADA
Physiographic province(s)	BASIN AND RANGE
Reliability of location	Good Compiled at 1:100,000 scale. *Comments:* Location based on 1:250,000-scale maps of Schell (1981 #2844) and of Dohrenwend and others (1991 #287). Mapping by Schell (1981 #2843; 1981 #2844) based on photogeologic analysis of primarily 1:24,000-scale color aerial photography supplemented with 1:60,000-scale black-and-white aerial photography, transferred by inspection to 1:62,500-scale topographic maps and photographically reduced and directly transferred to 1:250,000-scale topographic maps supplemented by field verification. Mapping by Dohrenwend and others (1991 #287) based on photogeologic analysis of 1:58,000-nominal-scale color-infrared photography transferred directly to 1:100,000-scale topographic quadrangle maps enlarged to scale of the photographs.
Geologic setting	This north-striking, down-to-the-east normal fault bounds the east side of the Schell Creek Range, along the west edge of Lake Valley, and has faults the cross into the range.
Length (km)	16 km.
Average strike	N4°W
Sense of movement	Normal *Comments:* (Schell, 1981 #2844)
Dip Direction	E
Paleoseismology studies	
Geomorphic expression	The fault is marked by abrupt well-defined fault scarps that juxtapose Quaternary alluvium against bedrock and by lineaments on Tertiary deposits (Dohrenwend and others, 1991 #287).
Age of faulted surficial	Quaternary and Tertiary

deposits	
Historic earthquake	
Most recent prehistoric deformation	undifferentiated Quaternary (<1.6 Ma) *Comments:* Although timing of the most recent event is not well constrained, Schell (1981 #2843; 1981 #2844) and Dohrenwend and others (1991 #287) suggested a Quaternary time based on reconnaissance photogeologic studies.
Recurrence interval	
Slip-rate category	Less than 0.2 mm/yr *Comments:* A low slip rate is inferred from general knowledge of slip rates estimated for other faults in the region.
Date and Compiler(s)	1998 Thomas L. Sawyer, Piedmont Geosciences, Inc.
References	#287 Dohrenwend, J.C., Schell, B.A., and Moring, B.C., 1991, Reconnaissance photogeologic map of young faults in the Lund 1° by 2° quadrangle, Nevada and Utah: U.S. Geological Survey Miscellaneous Field Studies Map MF-2180, 1 sheet, scale 1:250,000. #2843 Schell, B.A., 1981, Faults and lineaments in the MX Sitting Region, Nevada and Utah, Volume I: Technical report to U.S. Department of [Defense] the Air Force, Norton Air Force Base, California, under Contract FO4704-80-C-0006, November 6, 1981, 77 p. #2844 Schell, B.A., 1981, Faults and lineaments in the MX Siting Region, Nevada and Utah, Volume II: Technical report to U.S. Department of [Defense] the Air Force, Norton Air Force Base, California, under Contract FO4704-80-C-0006, November 6, 1981, 29 p., 11 pls., scale 1:250,000. #1682 Tschanz, C.M., and Pampeyan, E.H., 1970, Geology and mineral deposits of Lincoln County, Nevada: Nevada Bureau of Mines and Geology Bulletin 73, 188 p.

Questions or comments?